

The growing inequality between firms



Some firms pay well while others don't; and some are highly productive while many aren't. Our latest [research report](#) analyses firm-level data on the increasing dispersion of wages and productivity in both the manufacturing and services sectors in 16 OECD countries: Australia, Austria, Belgium, Canada, Chile, Denmark, Finland, France, Hungary, Italy, Japan, Luxembourg, the Netherlands, Norway, New Zealand and Sweden.

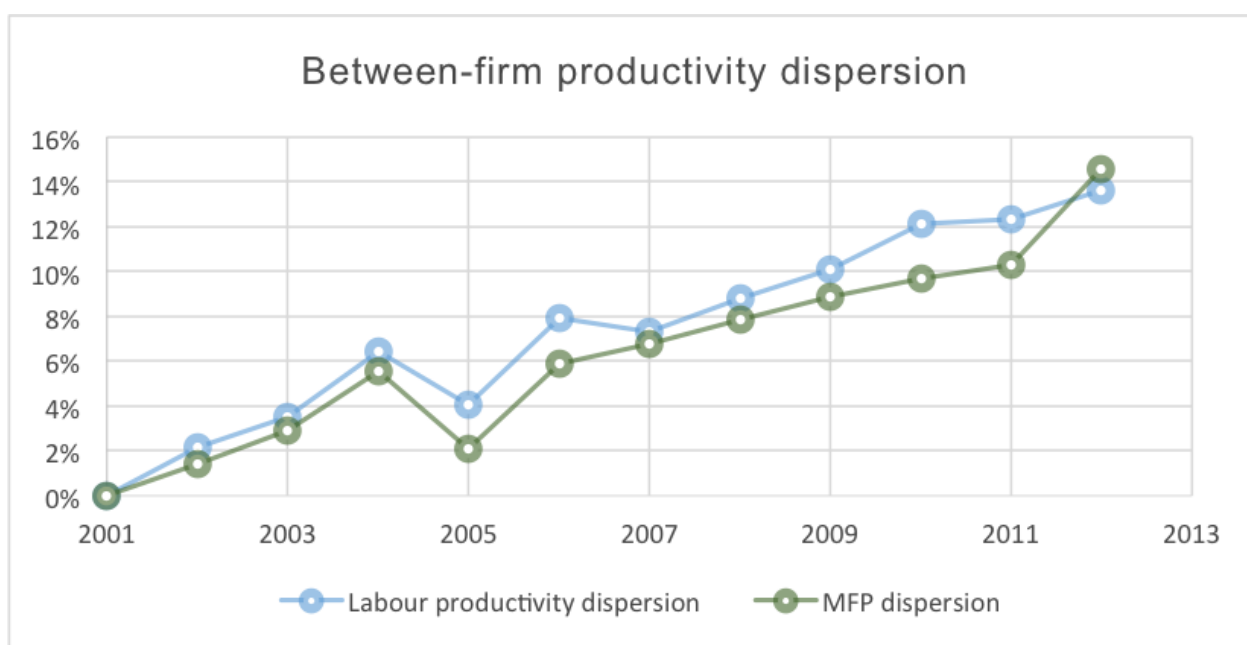
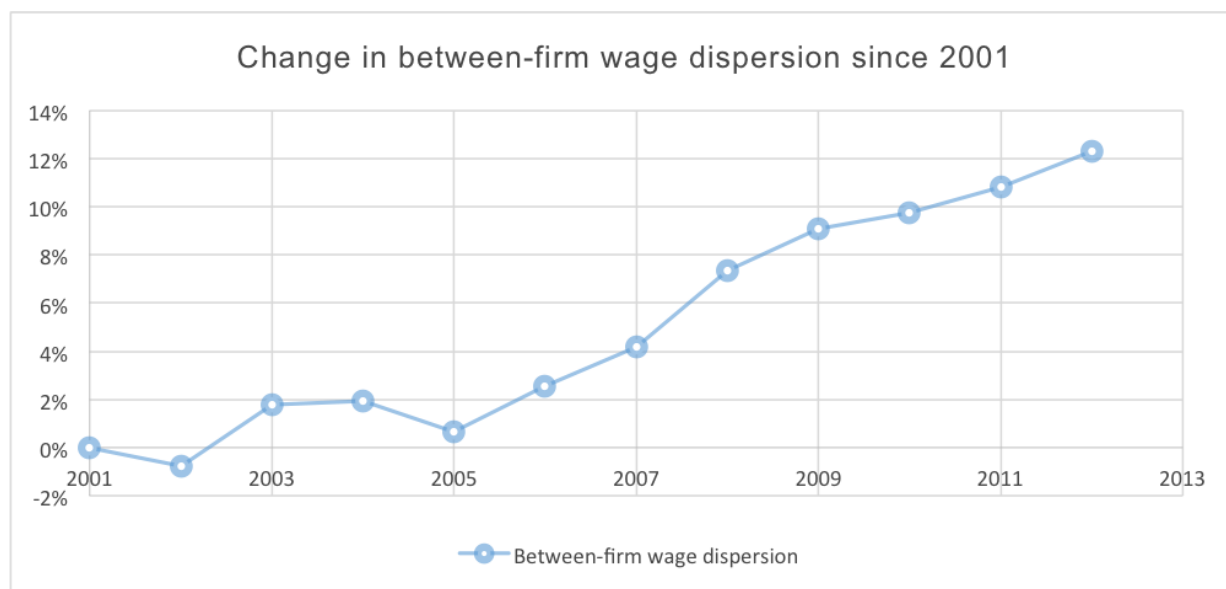
We find that wage inequalities are growing between firms, even those operating in the same sector – and they are linked to growing differences between high and low productivity firms. Both globalisation and technological progress (notably information and communications technologies, ICT) influence these outcomes – as do policies and institutions such as minimum wages, employment protection legislation, unions and processes of wage-setting.

Over the last three decades, many economies have experienced increasing inequality in earnings. A number of studies show that most of this dispersion comes from increasing differences in wages between the best- and worst-paying firms, rather than from a growing gap between top and bottom earners within the same firm.

At the same time, [recent evidence](#) suggests that there has been a significant increase in the gap between the globally most productive firms and the rest. This suggests that there might be a positive relationship between the two divergences in wages and productivity. Our study provides evidence of these 'Great Divergences' using novel micro-aggregated firm-level data.

Our first finding is that the increasing differential between the top and bottom of both the wages and productivity distributions is true not only across the whole economy, but also within two-digit sectors within countries.

Figure 1. "The Great Divergence(s)" in wages and productivity. Wage and productivity dispersion over time within sectors and countries.



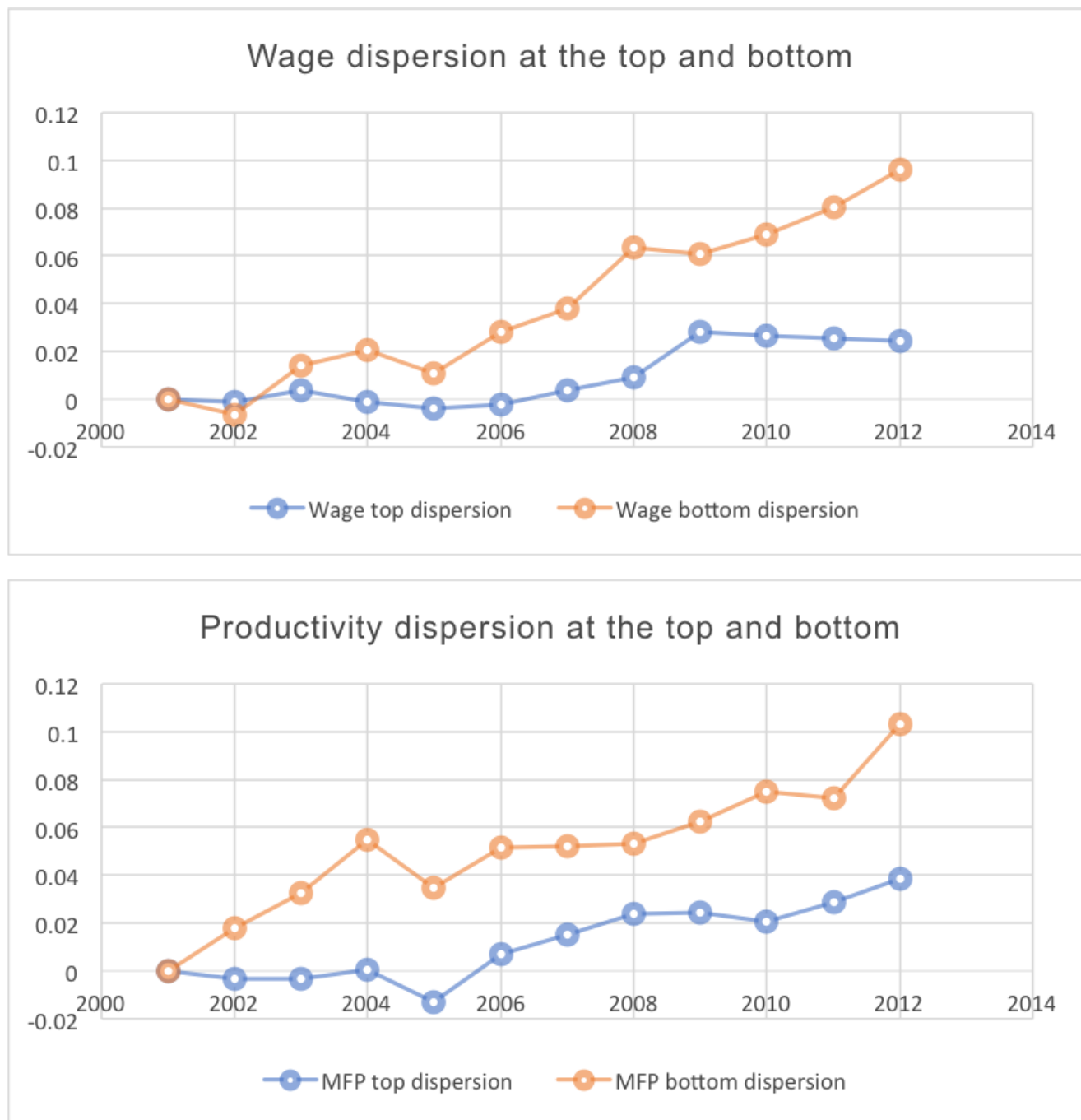
Note: Change in wage dispersion (left panel) and productivity dispersion (right panel) since 2001. Source: [Berlingieri et al. \(2017\)](#).

In Figure 1, the top panel represents how the 90-10 wage ratio, which compares wages in firms at the top 10 per cent of the wage distribution with wages in firms at the bottom 10 per cent, changed since 2001. A higher ratio indicates more differences between high-paying and low-paying firms. Over that period, wage difference *between firms of the same country and same sector* increased by 12 per cent.

Over the same period, productivity experienced a similar divergence. Differences between the most productive and least productive firms of the same country and same sector increased by 12.8 per cent for labour productivity (bottom panel, blue line) and 14 per cent for multi-factor productivity (right panel, orange line).

Much discussion of inequality has focused on increasing differences between the top 1% of earners and the rest of the income distribution. Our study shows that wage inequalities also come from the bottom of the distribution.

Figure 2. Wage and productivity divergence: top versus bottom. Wage and productivity dispersion at the top and bottom of the distribution, over time within sectors and countries.



Note: Change in wage dispersion at the top versus bottom (left panel), and multi-factor productivity dispersion at the top versus bottom (right panel) since 2001. Source: [Berlingieri et al. \(2017\)](#).

The top panel of Figure 2 shows how the ratio of wages between the top decile and the median (upper tail wage inequality, orange line), and between the median and bottom decile (lower tail wage inequality, blue line) have evolved between 2001 and 2012. The gap in average wage between the bottom decile and the median grew faster between 2001 and 2012 than the gap between the median and the top decile – that is, lower tail inequality grew faster than upper tail inequality. The same dispersion from the bottom occurred in the distribution of productivity (bottom panel). In other words, the dispersion of both wages and productivity has been faster at the bottom than at the top.

These parallel trends in dispersion suggest that the distributions of wages and productivity are linked. Our research investigates the role of structural factors as well as policies and institutional features of the economy that might have strengthened or weakened the correlation between wage and productivity dispersion.

First, we find that globalisation and digitalisation are not only associated with an increase in between-firm wage inequality, but they also strengthen the link between wages and productivity dispersion. In sectors where firms increase the use of ICT over time, wage dispersion grows faster, which suggests that ICT affects firms heterogeneously.

We also look at sectors that become more open to trade through either imports or exports. In those sectors, not only has wage dispersion increased but its link with productivity dispersion has also been strengthened.

Country-specific policies and institutions also play a role in shaping the evolution of wage and productivity dispersions, and the link between them. Our research focuses on the role of wage-setting institutions and labour market features:

- Minimum wages (in terms of both the hourly real minimum wage and the minimum relative to average wages of full-time workers);
- Employment protection legislation (strictness of employment protection for both individual and collective dismissals);
- Trade union density;
- And coordination in wage-setting.

Our results suggest that all of these policies have the intended consequence of reducing wage dispersion and, hence, overall inequality. At the same time, they affect the link between wage and productivity dispersion.

For example, more centralised bargaining is associated with a weaker link between productivity and wage dispersion, while this is not the case for changes in employment protection legislation and union density. More centralised bargaining can therefore help to limit wage dispersion, but at the same time it weakens the link between wages and productivity dispersion, which might be detrimental to long-run growth.

Conversely minimum wage policies, while also reducing wage dispersion, are associated with a stronger link between wage and productivity dispersion over time, which could benefit long-run growth.

But one ought to be careful. By changing how easy it is for firms to hire workers or dismiss them, these policies affect how labour flows to the best firms. This affects the transmission channel between productivity dispersion and wage dispersion. Thus, policies that might be beneficial to workers in the short-run by shielding them from productivity fluctuations may have a detrimental impact in the long run: by hindering the reallocation of resources away from poorly performing to highly productive firms, they might inadvertently trap them in low-paying firms, rather than giving them the opportunity to earn higher wages in more productive firms.



- *This blog post is based on the authors' paper [The great divergence\(s\)](#), OECD Science, Technology and Industry Policy Papers, May 2017*
- *The post gives the views of its author, not the position of LSE Business Review or the London School of Economics.*
- *Featured image credit: [Assembly line in Japan](#), by [Kojach](#), under a [CC-BY-2.0](#) licence*
- *Before commenting, please read our [Comment Policy](#)*



Giuseppe Berlingieri is Assistant Professor in Economics at ESSEC Business School, as well as Economist in the Directorate for Science, Technology and Innovation at the OECD. He is a research associate of the Centre for Economic Performance (CEP) at the London School of Economics (LSE) and of the THEMA research centre at the University of Cergy-Pontoise. He holds a PhD in Economics from LSE and his research focuses on international trade, productivity, outsourcing and sectoral reallocation.



Patrick Blanchenay is Assistant Professor, Teaching Stream at University of Toronto's Department of Economics. His research focuses on productivity patterns, and the impact of institutions. He holds a PhD in Economics from the London School of Economics.



Chiara Criscuolo is Senior Economist in the Structural Policy division of the Science Technology and Industry Directorate at the OECD. Prior to joining OECD she was a Research Fellow at the Centre for Economic Performance, London School of Economics. The main focus of her research is on innovation, international trade and on labour economics. Chiara Criscuolo received her doctorate from University College London.